

# Disaster Risk Finance for Agriculture

## Module 3

### The Role of Financial Market Solutions for Building Resilience to Shocks in Agriculture

Disaster Risk Financing  
& Insurance Program



 Foreign, Commonwealth  
& Development Office



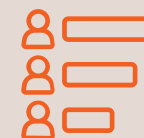
# Structure of Webinars



Total of 8 Factsheets & 90-minute Webinar for each Factsheet



Different guest speakers



Live audience polls & interactivities: Please participate



Q&A: Please share your questions via chat



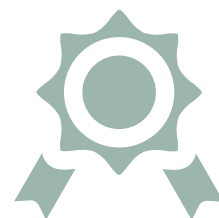
Breakout sessions at the end of each Webinar: Please register



Certificate of participation from the World Bank\*



# Certificate from World Bank



Participants will have an opportunity to obtain "Certificate of Informed Policymaker" from the World Bank on successful completion of following criteria:

## **Participation Certificate:**

Participants need to attend 4 out of the 8 webinar sessions and complete a short survey/quiz.

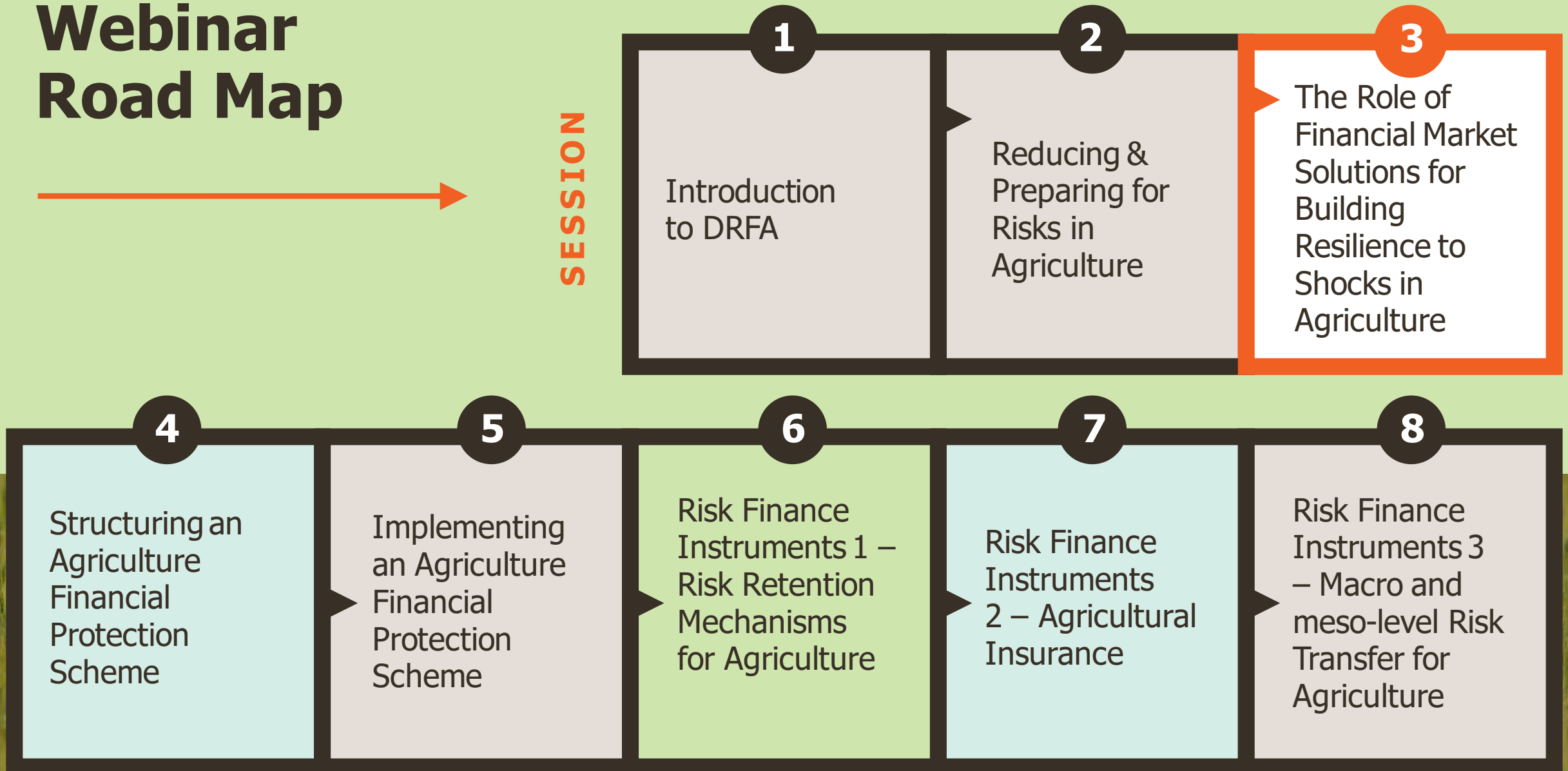
## **Program Completion Certificate:**

Participants need to attend 7 out of the 8 webinars and complete a short survey/quiz.

# Webinar Road Map

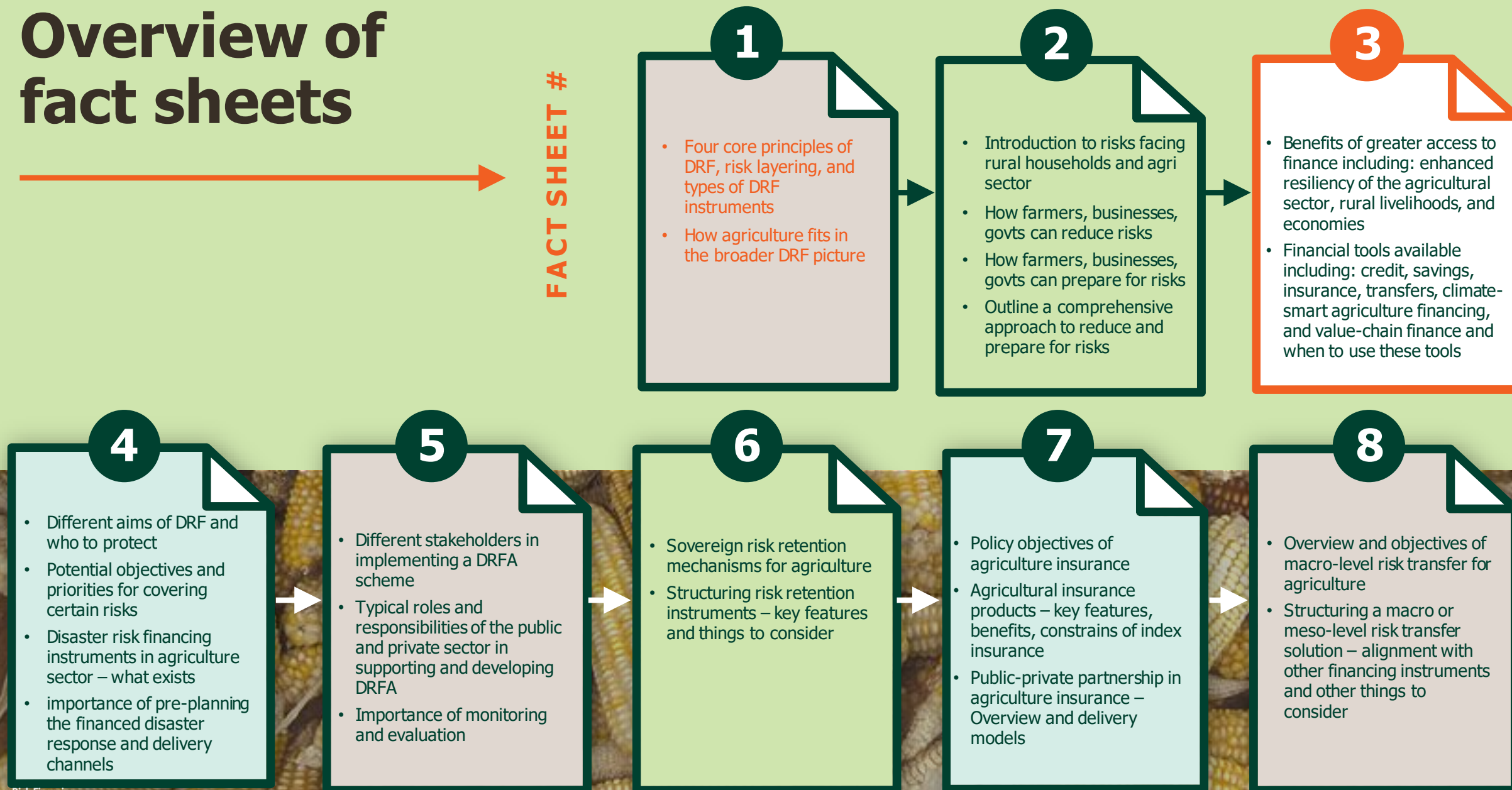


SESSION



# Overview of fact sheets

FACT SHEET #



1

- Four core principles of DRF, risk layering, and types of DRF instruments
- How agriculture fits in the broader DRF picture

2

- Introduction to risks facing rural households and agri sector
- How farmers, businesses, govts can reduce risks
- How farmers, businesses, govts can prepare for risks
- Outline a comprehensive approach to reduce and prepare for risks

3

- Benefits of greater access to finance including: enhanced resiliency of the agricultural sector, rural livelihoods, and economies
- Financial tools available including: credit, savings, insurance, transfers, climate-smart agriculture financing, and value-chain finance and when to use these tools

4

- Different aims of DRF and who to protect
- Potential objectives and priorities for covering certain risks
- Disaster risk financing instruments in agriculture sector – what exists
- importance of pre-planning the financed disaster response and delivery channels

5

- Different stakeholders in implementing a DRFA scheme
- Typical roles and responsibilities of the public and private sector in supporting and developing DRFA
- Importance of monitoring and evaluation

6

- Sovereign risk retention mechanisms for agriculture
- Structuring risk retention instruments – key features and things to consider

7

- Policy objectives of agriculture insurance
- Agricultural insurance products – key features, benefits, constrains of index insurance
- Public-private partnership in agriculture insurance – Overview and delivery models

8

- Overview and objectives of macro-level risk transfer for agriculture
- Structuring a macro or meso-level risk transfer solution – alignment with other financing instruments and other things to consider

# Word Cloud 1: Where are you currently based?



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# Content

1. Recap Module No. 2: Key takeaways
2. Agriculture Finance: What, Who, and Why?
3. Agriculture risk management: What can agrifinance do about it?
4. The role of Government: Examples of policy tools to support agriculture risk management

## Module 3 objective:

Understand the role of financial market solutions for building resilience to shocks in agriculture



# Poll 1: Recap

What was the last Webinar about?



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## What was the last Webinar on Module 2 about?



Why do agriculture risks matter



Agriculture Sector Risk Assessment (ASRA)



I did not attend the previous webinar



I don't remember



# Recap Module No. 2



# Key takeaways of Module 2

- Adequate risk assessment is essential for effective risk management
- **The development of an integrated risk management strategy must begin by** recognizing the underlying risks, existing capacities and potential areas improvement
- Weigh up the costs and benefits and **decide whether to implement the strategy**
- **An efficient agriculture risk management plan is grounded in the knowledge of the stakeholders and achieving consensus** and participation
- **Agricultural Risk Management should NOT** focus solely on productive risks. Risk management isn't static but a process
- The application of risk management tools is an integral part of a comprehensive risk management strategy
- Sustained investments **are required to reduce vulnerability and improve resilience**



# Financial Protection and DRM

PILLARS

## 1. RISK IDENTIFICATION

Improved Identification and understanding of disaster risks through building capacity for assessments and analysis

## 2. RISK REDUCTION

Avoided creation of new risks and reduced risks in society through greater disaster risk consideration in policy and investment

## 3. PREPAREDNESS

Improved capacity to manage crisis through developing forecasting and disaster management capacities

## 4. FINANCIAL PROTECTION

Increased Financial resilience of governments, private sector and households through financial protection strategies

## 5. RESILIENT RECOVERY

Quicker, more resilient recovery through support for reconstruction planning

PILLARS

Disaster Risk Finance is one component of a comprehensive approach to risk management

Financial protection complements, but does not replace, risk reduction and resilience measures

# Agriculture Finance and Insurance



1. Agriculture Finance: What, Who, and Why?



2. Agri risk management: what can agri finance do



3. The role of Government: Examples of policy tools to support agri risk management

# Agriculture Finance: What is it?

Promoting access of farmers and agricultural micro, small and medium Enterprises to suitable financial services

**Financial inclusion** means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – **transactions, payments, savings, credit and insurance** – delivered in a responsible and sustainable way by a variety of financial services providers.



# There are an estimated 450 to 500 million smallholder farmers in the world

Figure 1: GEOGRAPHIC DISTRIBUTION OF SMALLHOLDER FARMERS



Source: FAO, "Statistical Pocketbook: World food and agriculture", 2015; FAO ESA Working Paper No. 14-02, Dalberg Analysis.

About 2 billion people live in smallholder households

# Quiz 1:



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What percentage of smallholder farmers are estimated to sell their products in organized value chains?



30%



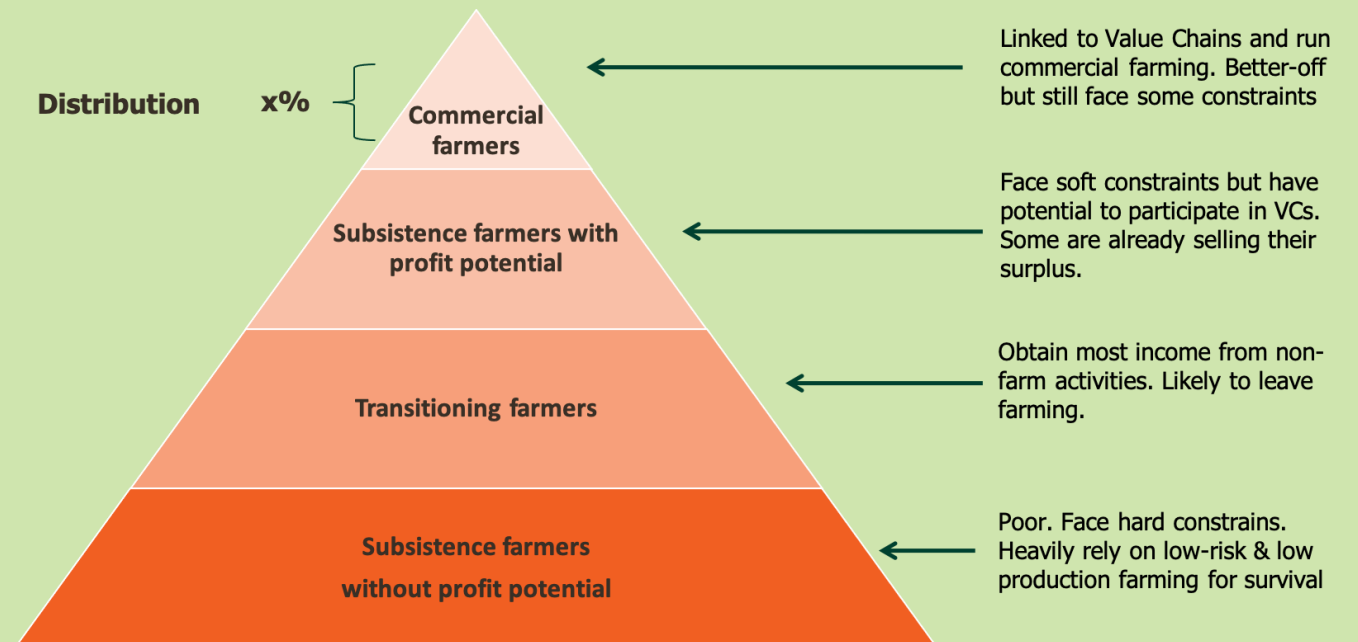
10%



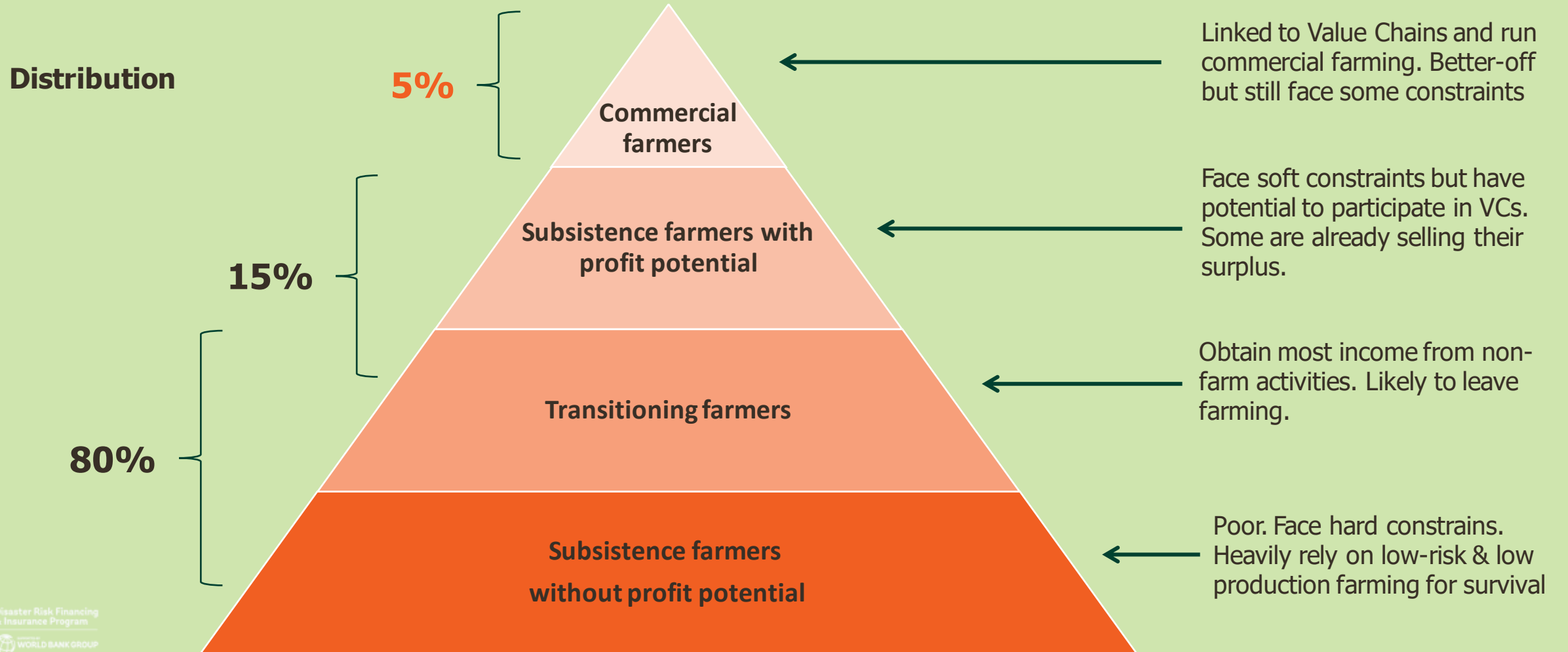
20%



5%



# Quiz: What percentage of smallholder farmers are estimated to sell their products in organized value chains?





# There is a wide variety of Financial Services Providers



Private and public banks



Financial Cooperatives



Microfinance Institutions (MFIs)



Leasing companies



Insurance companies



Value Chain players



Informal providers



Mobile Network Operators



Fintechs



# Quiz 2:



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## Who are the largest finance providers for smallholders in the developing countries?



Agri business companies (inputs providers & buyers etc.)



Governments and public programs



Commercial banks



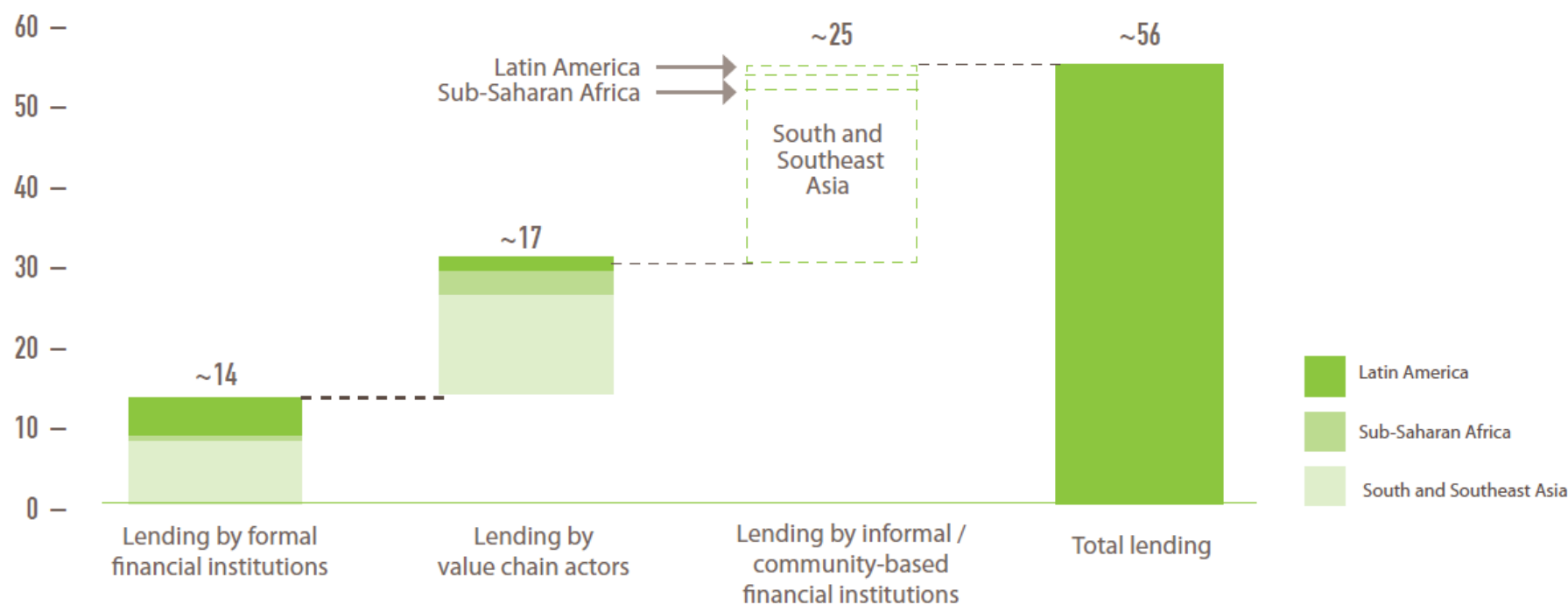
Microfinance institutions



Informal and community based financial institutions

# Sources of finance for agriculture

Smallholder lending in South and Southeast Asia, sub-Saharan Africa, and Latin America, by source  
 (Annual disbursements, USD billion)<sup>1</sup>



Source: ["Inflection Point: Unlocking growth in the era of farmer finance, 2016"](#)

# Lending by formal financial institutions

Sources	Estimated annual disbursements in US\$ billion	% of total
State/Agri banks	9	64.3%
MFI's	3	21.4%
Commercial banks	1	7.2%
Social lenders	0.4	3%
NGOs	0.03	0.2%

# Agriculture Finance: Why it matters?



## Eradicating Extreme Poverty

- **Agriculture GDP growth has twice more impact** on poverty reduction than non-agriculture GDP growth
- **There are 2.5 billion people involved in agriculture in developing countries**, among the 3 billion people living in rural areas
- Agriculture development often strategic to ensure **food security, especially in fragile and conflict affected countries**
- **Demand for financing by smallholder farmers estimated at US\$450 billion**

- Agriculture often accounts for more than half of **GDP growth** during the early stages of development
- Agriculture growth can help **reduce current account deficits** by boosting exports/ reducing imports
- **Share of agriculture in total lending** is often much lower than share of agriculture in GDP
- Additional **agriculture investment requirements by private sector** range between US\$80 – US\$160 billion per year



## Boosting Shared Prosperity

# Agriculture Finance: What are the expected benefits?



**Growing income of farms and agricultural SMEs** through access to better technologies and commercialization



**Increasing resilience** (risk management capacity) through climate smart production, risk diversification and access to financial tools (e.g. savings, insurance, contingent credit etc...)



**Smoothing the transition** of non-commercial farmers out of agriculture and facilitating the consolidation of farms, assets and production



# What does “financial inclusion” mean?

*"A state in which all people have access to a **full suite of quality financial services**, provided at **affordable prices**, in a **convenient manner**, and **with dignity** for the clients. Financial services are delivered by a **range of providers** (...) and reach everyone **who can use them**, including disabled, poor, rural, and other excluded populations.'*

*Center for financial inclusion*

# What does “financial inclusion” mean?



**A credit** is a form of debt. The lender advances a sum of money to the borrower. In return, the borrower agrees to a certain set of terms including interest, repayment date, and other conditions. In some cases, the lender may require collateral to secure the loan and ensure repayment.



**A savings account** is a basic type of bank account that allows you to deposit money, keep it safe, and withdraw funds, all while earning interest.



**Insurance** is a means of protection from financial loss. The insurer commits to provide compensation for specified risks in return for payment of a specified premium.



**A payment** is a transfer of money which can be made in many forms including cash, check, wire transfer, credit card, debit card, mobile money payment, in exchange for a product or service.



**Remittances**, are funds, generally a portion of a salary, transferred from one individual to another.:

- **International** remittances are funds transferred by a foreign worker to his/her home country
- **domestic remittances** are funds within one nation, generally from a worker in an urban area to a household in a rural area.



# What can finance do for farmers and agricultural MSMEs?



## Help seize opportunities

Increase profits ( increase production, increase quality, move to a new activity, reduce costs etc..)



## Improve Resilience

Manage shocks (e.g. weather, pest, price shock, life event etc..)



## Facilitate Transactions

Safe, convenient way to transact



## Smooth Consumption

Maintain stable consumption in spite of volatile/ seasonal income by tapping into past or future income

Credit

Savings

Insurance

Payments

Remittances

# Quiz 3:



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## What financial services can help farmers and agricultural MSMEs seize opportunities?



Credit



Savings



Insurance



Payments



Remittances

# Quiz 4:



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## What financial services can help farmers and agricultural MSMEs improve their resilience?



Credit



Savings



Insurance



Payments



Remittances

# Quiz 5:



Go to [www.menti.com](https://www.menti.com)  
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on your phone)

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Use the code: 1749 3181

## What financial services can facilitate the transactions of farmers and agricultural MSMEs?



Credit



Savings



Insurance



Payments



Remittances

# Quiz 6:



Go to [www.menti.com](https://www.menti.com)  
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on your phone)

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## What financial services can help farmers & agricultural MSMEs smooth their consumption?



Credit



Savings



Insurance



Payments



Remittances

# What can finance do?



## Help seize opportunities

Increase production, Increase product quality & Move out of agriculture

Credit

Savings

Remittances



## Improve Resilience

Manage shocks (e.g. weather, pest, price shock, life event etc..)

Savings

Remittances

Credit

Insurance



## Facilitate Transactions

Safe, convenient way to transact

Payments

Remittances



## Smooth Consumption

Maintain stable consumption in spite of volatile/seasonal income by tapping into past or future income

Savings

Credit

# Agriculture Finance and Insurance



1. Agriculture Finance: What, Who, and Why?



2. Agri risk management: what can agrifinance do about it?



3. The role of Government: Examples of policy tools to support agri risk management

# Risk management financial solutions for farmers



## Risk reduction

Financial services which farmers can use to **reduce their vulnerability to agricultural risks**. For instance, such financial services can help farmers invest in technology that will allow them to continue growing their crops and generating income when droughts happen.



## Financial protection

Financial services that allow farmers to **access liquidity after shocks**.



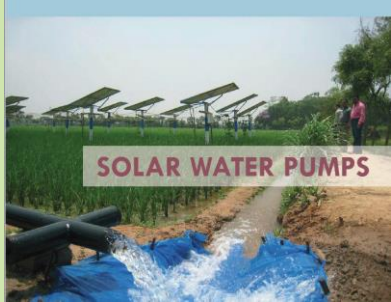


# Risk management financial solutions for farmers

	Credit	Savings	Remittances	Insurance
Risk reduction	<p><b>Capital Investment</b> (irrigation etc.)</p> <p><b>Input credit</b> (drought resistant seeds etc.)</p>	<p><b>Commitment savings</b> for climate smart investments</p>	<p><b>Remittances</b> used for investments</p>	X
Financial protection	<p><b>Emergency Credit</b></p>	<p><b>Precautionary savings</b> for emergencies</p>	<p><b>Remittances</b> used after shocks</p>	<p><b>Agricultural insurance payouts</b></p>



# Focus: Role of credit for risk reduction and financial protection



**Solar Water Pumps** can allow farmers to irrigate their crops and reduce their vulnerability to drought while avoiding greenhouse gas emissions:

- Climate change adaptation: resilience to drought
- Climate change mitigation: reduction of GHG emission



**Drought resistant seeds**



**Emergency loans** (e.g. BRAC in Bangladesh):

- Reduce the need for resource-poor families to cut back their consumption and/or to engage in distress sales of productive assets after a climatic shock





## Focus: Commitment savings

**Mali, Senegal, Tanzania**

**MyAgro is a social enterprise operating in Africa.**

The company has developed a layaway savings program that enables smallholder farmers to save little by little for agricultural inputs such as seed, fertilizers and tools to improve their productivity by using a prepaid scratch card model.

*"Sorghum is resistant to climate change. With a good sorghum harvest, I can meet my family's needs during a drought,"  
Diallo, Mali*

**The myAgro model increases net income by \$150 – \$300 per farmer.**





## Focus: Commitment savings

### Cote d'Ivoire

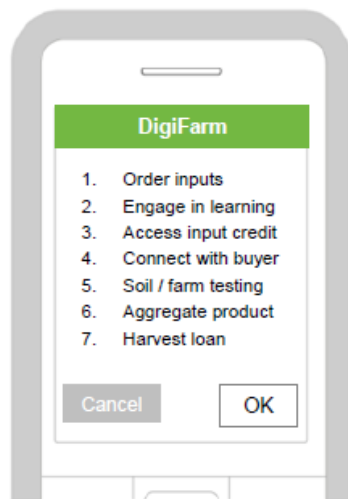
- Côte d'Ivoire – Cashew nut workers
- Workers offered the direct-deposit commitment savings account **increased their labor productivity and earnings by 10 percent, which translates into an 18 percent increase** for workers who opened an account.

- **\*Gender Innovation Lab, 2018, Working Under pressure: improving labor productivity through financial innovation**

# Focus: role of savings after shocks

Kenya

Launched in 2017, **DigiFarm** is **Safaricom's integrated mobile platform of digital services for farmers.** **DigiFarm**, accessible on a basic feature phone, provides farmers with access to products and services enabling them to conveniently source, transact, learn, and grow their farms. Over time, additional services are added onto the platform to make **DigiFarm** a one-stop shop for Kenyan farmers, including an open marketplace for agricultural produce



Current services

### 1. Order inputs

**DigiFarm** allows farmers to purchase inputs through selected vendors

### 2. Engage in learning

**DigiFarm** provides access to educational content for best farming practices and financial literacy

### 3. Access input credit, harvest cash loans and insurance

**DigiFarm** provides digital credit products based on alternative credit scoring and bundled with insurance

### 4. Connect with buyer

**DigiSoko** connects farmers to buyers in specific value chains

### 5. Soil / farm testing

**DigiSoko** tests soil to understand required inputs and suitability for value chain production

### 6. Aggregate product

**DigiSoko** facilitates aggregation of produce and final payment to farmers



In 2018, only 10% of the input credit on DigiFarm was being taken up by female clients



# Focus: role of savings after shocks

## Kenya

- **Women's financial strategies are shaped by emergencies.**
  - Female farmers experience on average **2.5 times** as many emergencies as Kenyans overall.
- **Female farmers are strong savers**
  - Women farmers manage to save, informally, **at the same rates** as Kenyans overall, while earning less money with more volatility, experiencing more emergencies, and struggling with more expenses.

**Digifarm is currently designing a savings product to help female farmers deal with emergencies**

# Focus: role of domestic remittances after shocks

## Kenya



- M-Pesa is a mobile money service that allows users to **store and transfer money through their mobile phones.**
- Safaricom, the largest mobile phone operator in Kenya, launched M-Pesa in 2007 and has today more than **30 million users**
- In Kenya, **shocks reduce consumption by 7% for non-users of Mpesa**, while Mpesa users manage keep the same consumption levels after shocks\*

Jack, William, and Tavneet Suri. 2014. "Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution." *American Economic Review*, 104 (1): 183-223

# Focus: role of international remittances for rural households

In 2018, US\$529 billion of international remittances went to developing countries which is over **three times the amount of official development assistance**



## Financial protection

- About **75 per cent** of international remittances are used by receiving households to put food on the table, cover medical expenses, school fees, housing expenses, **cover loss of crops or family emergencies**. They account for up to 60 per cent of a household's total income and represent a lifeline for millions of rural families.



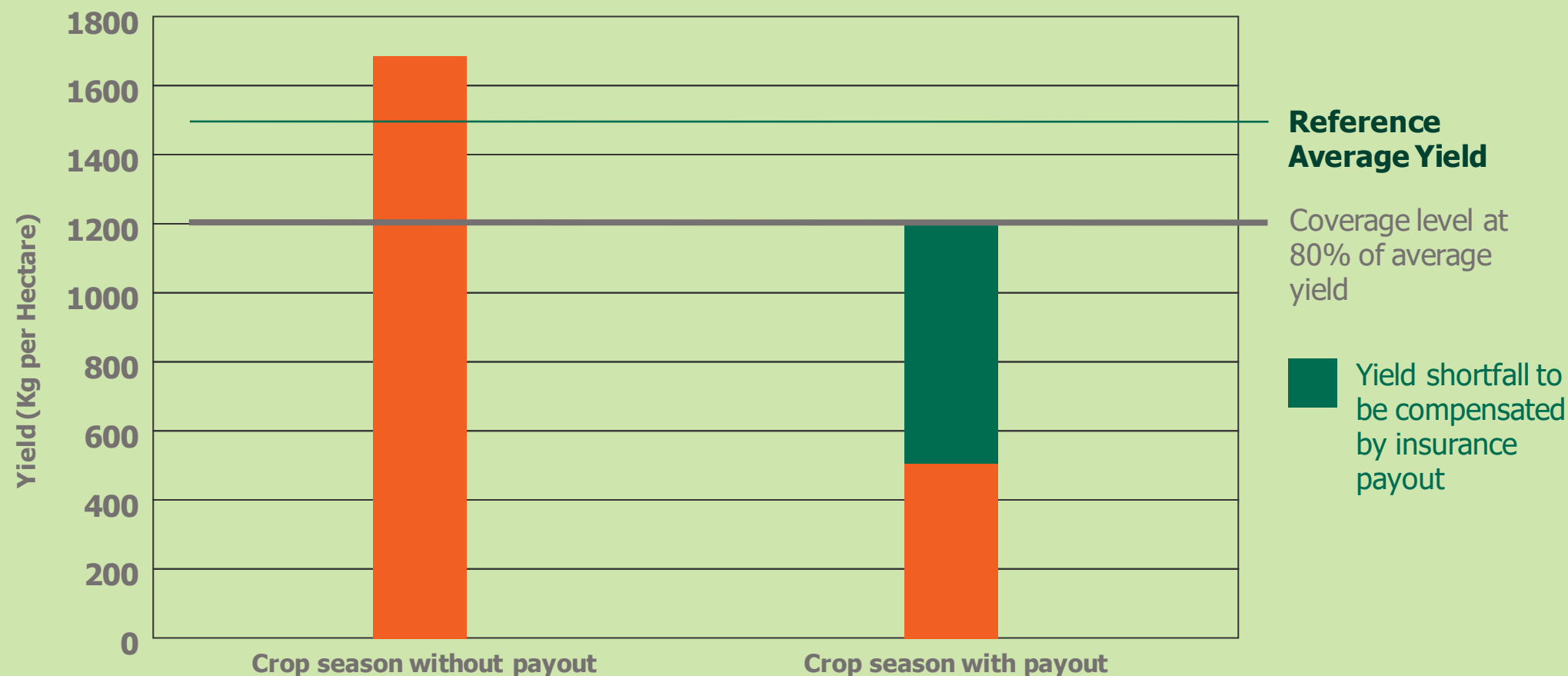
## Risk Reduction

- About **25 per cent** of international remittances are **saved or invested in asset building**, which may be investments in risk reduction

Source: <https://www.ifad.org/en/web/latest/-/story/sending-money-home-nine-reasons-why-remittancesmatter#:~:text=The%20rest%2C%20about%2025%20per,in%20particular%20in%20rural%20areas.&text=Conversions%20and%20fees%20cost%2C%20on,cent%20of%20the%20amount%20sent.>



# Focus: role of insurance after shocks



Area yield index insurance is a type of insurance which pays farmers with respect to the reference average yield in the area

**Any question so far?**

# Agriculture Finance and Insurance



1. Agriculture Finance: What, Who, and Why?



2. Agri risk management: what can agri finance do



3. The role of Government: Examples of policy tools to support agri risk management

- ✓ Partial Credit Guarantees
- ✓ Matching grants

## Word Cloud:

# Why Governments support agrifinance?



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# Why Governments support agrifinance?

## WORD CLOUD EXERCISE



**Financial Inclusion**



**Boosting agricultural income**



**Ensuring Food Security**



**Mitigate and Adapt to climate change**



# What is a subsidy?

The **WTO Agreement on Subsidies** and Countervailing Measures (ACMS) provides a definition of "subsidy" that has been accepted by all WTO members.

Article 1 of the Agreement states that **a "subsidy" exists when there is a "financial contribution" by a government or public body that confers a "benefit"**.

- **A "financial contribution"** arises where:
  - i. a government practice involves a **direct transfer of funds** (e.g. grants, loans, and equity infusion), **potential direct transfers of funds** or liabilities (e.g. loan guarantees);
  - ii. government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits);
  - iii. a government **provides goods or services** other than general infrastructure, or purchases goods; or
  - iv. a government entrusts or directs a private body to carry out one or more of the above functions.
- A "benefit" is conferred when the "financial contribution" is provided to the recipient on **terms that are more favorable** than those that the recipient could have obtained from the market.



# What is a smart subsidy?



## Sustainable:

- Donor: Can the **Government/ Donor** sustain the subsidies over time?
- Recipient: Will the **recipient** be able to continue his/her activities without subsidies after the subsidies are phased out?
- Planet: Are the subsidies promoting **environmentally sustainable** agriculture?



## Additionality

- Will the recipient undertake activities that he/she would not have undertaken otherwise?



## Cost-effectiveness:

- Are there cheaper instruments that would have had the same impact?



# Range of public policies impacting agriculture finance



## Legal and regulatory framework

- **Interest rate caps**
- **Lending quotas**
- Regulation of **bank branch** expansion
- **Prudential regulations**
- **Index insurance** framework
- **Warehouse receipt financing** frameworks



## Financing and incentives

- **Public banks** ( 1<sup>st</sup> tier, 2<sup>nd</sup> tier, hybrid)
- **Subsidized Credit lines**
- **Subsidies** (interest rate, start-up costs, insurance premiums subsidies, **matching grants**, loan forgiveness)
- **Partial Credit Guarantees**



## Financial Infrastructure and Data

- **Financial infrastructure** (e.g. credit bureaus, moveable collateral registries)
- **Agriculture data**



## Capacity building

- **Supply** and **demand side** capacity-building
- **Financial literacy programs**



# Agriculture Finance and Insurance



1. Agriculture Finance: What, Who, and Why?



2. Agri risk management: what can agrifinance do **about it?**



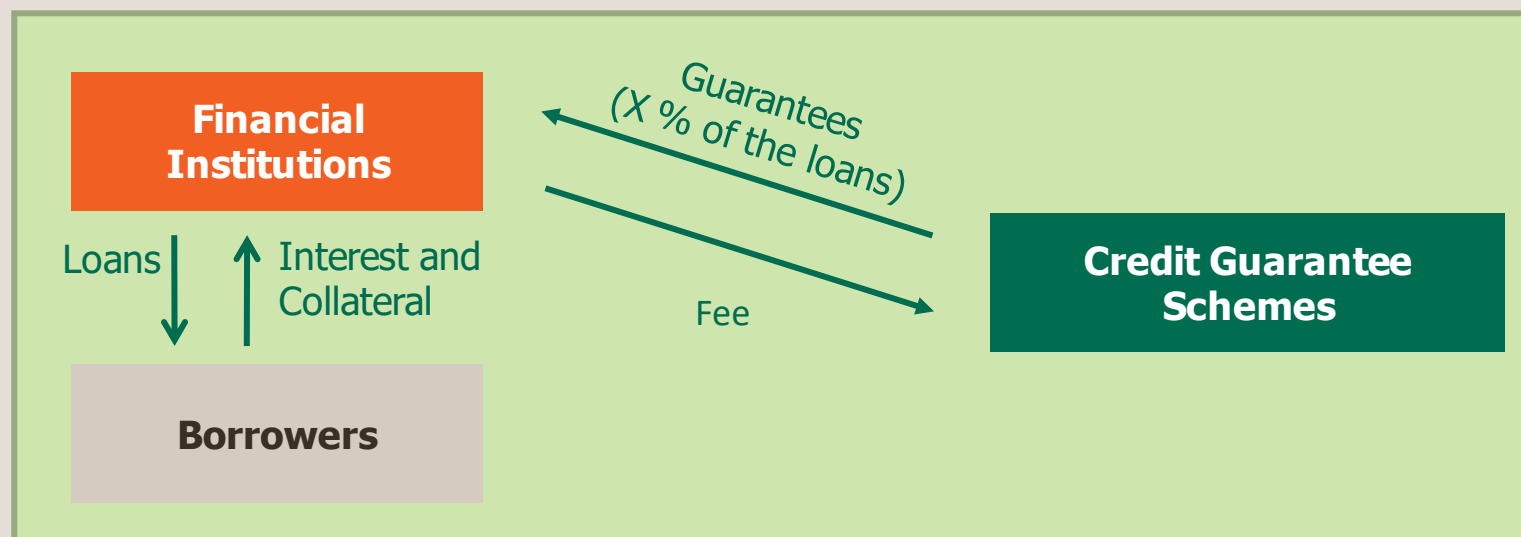
3. The role of Government: Examples of policy tools to support ag risk management

✓ Partial Credit Guarantees

✓ Matching grants

# Partial Credit Guarantees

- **Partial Credit Guarantee schemes (PCGs) are a popular policy intervention to alleviate credit constraints**
- **PCGs absorb part of the default risk of the borrower**, with a view to increase credit supply to credit constrained firms



Expected impact	Potential challenges
<ul style="list-style-type: none"> <li>• <b>Financial Additionality on the Extensive Margin:</b> Induces banks to expand the risk frontier, providing loans to firms without access to loans (as opposed to subsidize bank’s risk on firms that were already accessing credit)</li> <li>• <b>Financial Additionally on the Intensive Margin:</b> Improves access to finance conditions (interest rates, amounts and maturities)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Could induce moral hazard:</b> <ul style="list-style-type: none"> <li>○ On the part of the lender (reduced incentives to monitor loans).</li> <li>○ on the part of the borrower (reducing incentives to repay the loan)</li> </ul> </li> </ul>



# Focus on PCGs – Case study

## Mexico

- **Several PCGs constitute the Mexican National Guarantee System (SNG),** created in 2001
- **In 2011, about 10 percent of total banking credit** was backed by public PCGs and **about 70 percent of bank loans** to SMEs

➤ **Consideration should be given to the introduction of sunset-clauses for firms accessing to guaranteed programs**

Recent impact evaluation has shown positive impact of the Mexican PCG on SME lending

 Strengths	 Weaknesses
<ul style="list-style-type: none"> <li>• <b>Mexican PCGs facilitate access to credit to riskier firms</b> (smaller firms, firms with past defaults, first time borrowers or firms in poorer states)</li> <li>• <b>Guarantees improve all loan conditions</b> (interest rate, maturity and loan amount)</li> <li>• <b>No negative effect of guarantees on defaults</b> (limited moral hazard effects).</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Having a guaranteed does not facilitate access to unguaranteed loans in the future,</b> but only to guaranteed loans. Low graduation rates from the program.</li> </ul>

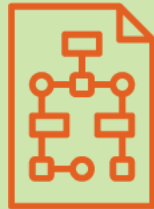
WB, E. Gutierrez, 2016, "How Effective are Mexican PGGs at facilitating access to credit?"



# PCGs – How to address unique risks in agriculture



A clear policy to prevent a **sudden capital loss in case of catastrophic events.**



**Diversification** across different commodities, regions, and business activities (production and processing) while achieving development goals.



PCGs in a **broader agriculture finance landscape.**



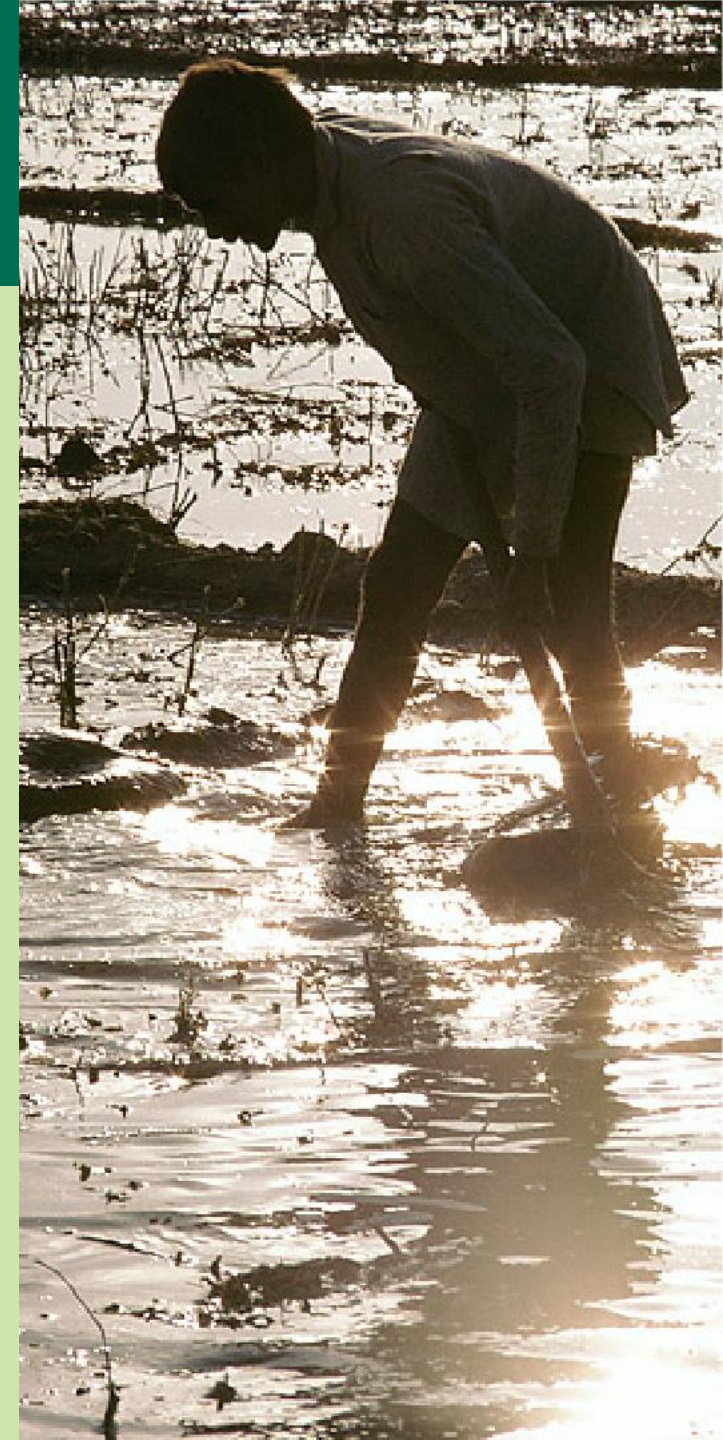
A select number of **partner financial institutions with clear strategic interests in the agriculture sector.**



**Demand-side support** for potential borrowers.



Low claims as much as possible, but very low claim rates should be critically evaluated against the objectives of the PCGs.



# Agriculture Finance and Insurance



1. Agriculture Finance: What, Who, and Why?



2. Agri risk management: what can agrifinance do



3. The role of Government: Examples of policy tools to support agri risk management

✓ Partial Credit Guarantees

✓ Matching grants

# A commonly used instrument to support agricultural investments...

“a **one-off, non-reimbursable transfer** to project beneficiaries, for a specific purpose, based on the condition that the recipient makes a contribution for the same purpose”.



# ...But design matters to ensure the effectiveness of matching grants



## Additionality

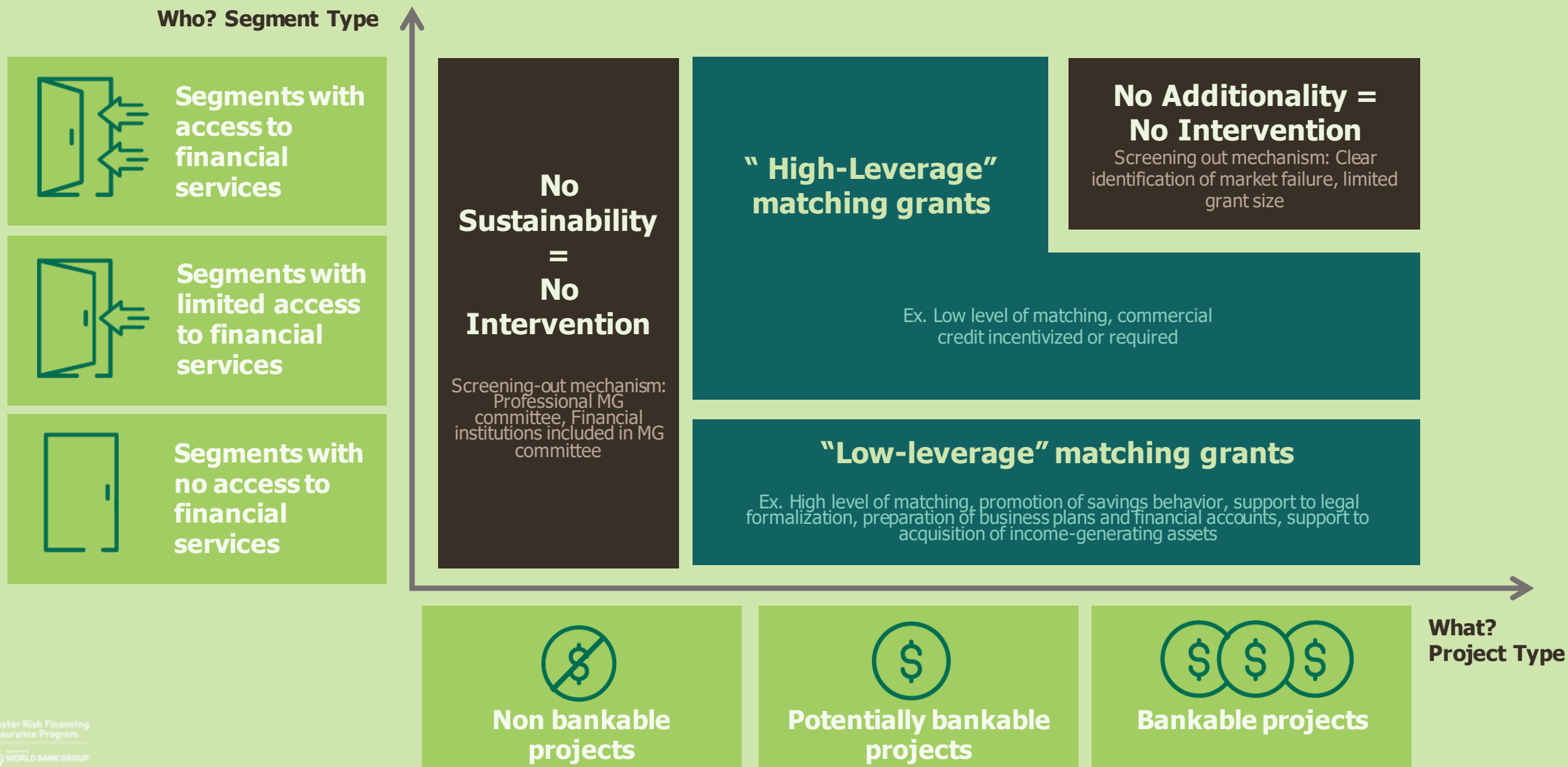
Will the recipient **undertake activities that he/she would not have undertaken** otherwise



## Sustainability

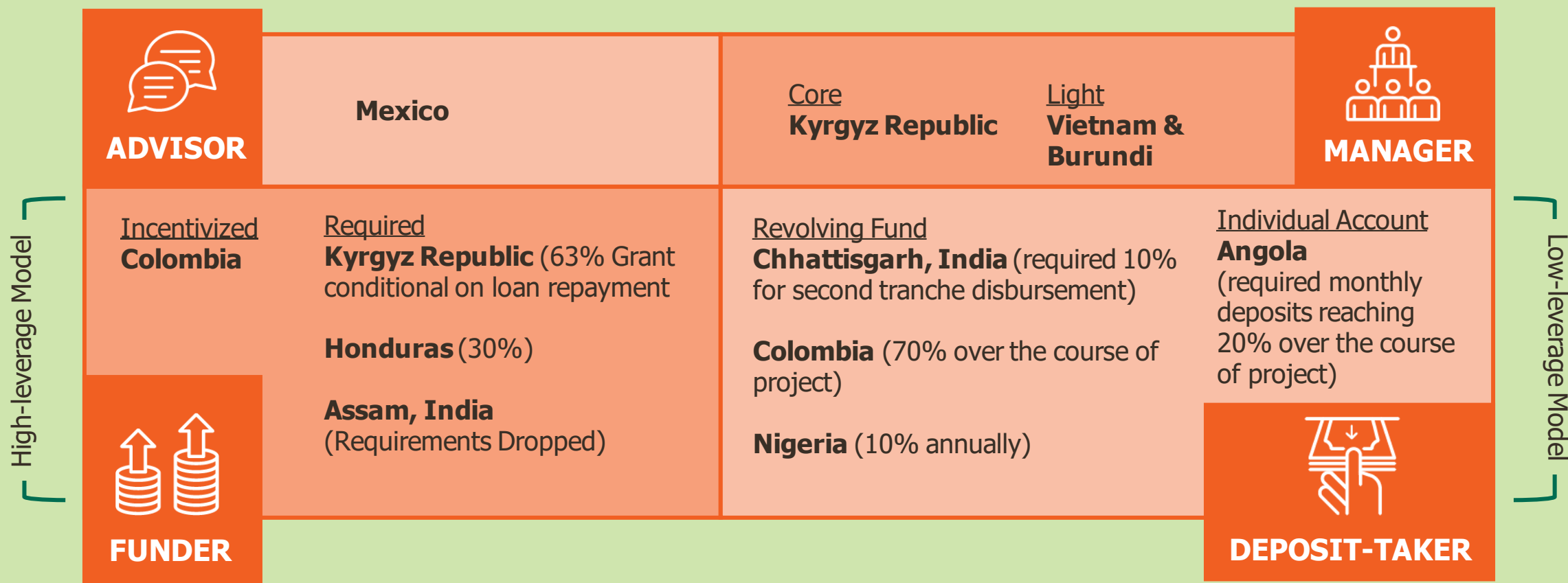
Will the recipient be able to **continue his/her activities** without subsidies after the subsidies are phased out?

# Ensuring additionality: Smart targeting





# Ensuring Sustainability: Creating linkages with financial institutions





## Key take-aways from this session

- Finance can help farmers address **diverse** objectives
- There are **various financial products** for farmers to manage risks, both for risk reduction and financial protection
- Governments have **different** tools in their policy tool-box to support agriculture finance

# Any questions?

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**Rachel Sberro-Kessler**

[rsberro@worldbank.org](mailto:rsberro@worldbank.org)



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# Next session

What will the next session cover, when, and why join?

## Webinar Road Map



SESSION

